

Amendments to the Claims

Claim 1 (Currently Amended): A compound that is effective in inducing expression of proteins under control of a lac-based promoter, said compound being stable at ambient temperatures, said compound being isobutyl- β -C-galactoside (IBCG), its biologically active salt forms, and optical isomers thereof.

Claims 2-3 (Canceled).

Claim 4 (Currently Amended): The C-glycoside of claim [[3]]1 that is functionally equivalent to IPTG.

Claim 5 (Canceled).

Claim 6 (Currently Amended): The ~~C-glycoside~~ compound of claim [[3]]1 that is stable at ambient temperatures.

Claims 7-8 (Canceled).

Claim 9 (Withdrawn): A method of inducing protein expression comprising: adding a C-glycoside of IPTG to a bacterial culture.

Claim 10 (Withdrawn): The method of claim 9 whereby the bacterial culture is *Escherichia coli*.

Claim 11 (Withdrawn): The method of claim 10 whereby the C-glycoside of IPTG binds with the *lac* repressor in the *Escherichia coli*.

Claim 12 (Withdrawn): The method of claim 9 whereby the C-glycoside is added to a final concentration of between about 0.05-2.0 mM.

Claim 13 (Withdrawn): The method of claim 9 that does not require multiple additions of the C-glycoside.

Claim 14 (Withdrawn): The method of claim 9 further including the step of storing the C-glycoside at ambient temperature.

Claim 15 (Withdrawn): The method of claim 9 whereby the C-glycoside of IPTG is IBCG, its analogues, biologically active salt forms, and optical isomers thereof.

Claim 16 (Withdrawn): A method of synthesizing a C-glycoside of IPTG comprising: treating galactose pentaacetate with methallyltrimethylsilane in the presence of boron trifluoride etherate.

Claim 17 (Withdrawn): A method of synthesizing a C-glycoside of IPTG comprising: treating a halo-acetogalactose with an excess of an organomagnesium halide to provide a C-linked glycoside.

Claim 18 (Withdrawn): The method of claim 17 further including the step of deprotecting acetyl groups in the C-linked glycoside with sodium methoxide.

Claim 19 (Withdrawn): A method of inducing protein expression comprising adding a C-glycoside of IPTG to a plant cell.

Claim 20 (Withdrawn): The method of claim 19 wherein the plant cell comprises an expression system having a lac-based promoter.

Claim 21 (Withdrawn): The method of claim 19 wherein the lac-based promoter is a *lac* promoter.

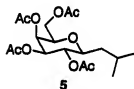
Claim 22 (Currently Amended): The ~~C-glycoside~~ compound of claim [[3]]1 that is functional as a galactose substitute.

Claim 23 (Original): The compound of claim 1 wherein the lac-based promoter is selected from the group consisting of lac, tac, and trc.

Claim 24 (Original): The compound of claim 23 wherein the promoter is an *Escherichia coli* lac promoter.

Claims 25-27 (Canceled).

Claim 28 (Original) A caged compound of formula:



Claim 29 (New): A method of inducing protein expression comprising: adding isobutyl- β -C-galactoside (IBCG), its biologically active salt forms, or optical isomers thereof to a bacterial culture.

Claim 30 (New): The method of claim 29 whereby the bacterial culture is *Escherichia coli*.

Claim 31 (New): The method of claim 30 whereby the IBCG binds with the lac repressor in the *Escherichia coli*.

Claim 32 (New): The method of claim 29 whereby the IBCG is added to a final concentration of between about 0.05-2.0 mM.

Claim 33 (New): The method of claim 29 that does not require multiple additions of the IBCG.

Claim 34 (New): The method of claim 29 further including the step of storing the IBCG at ambient temperature.

Claim 35 (New): A method of synthesizing isobutyl- β -C-galactoside (IBCG) comprising: treating galactose pentaacetate with methallyltrimethylsilane in the presence of boron trifluoride etherate.

Claim 36 (New): A method of synthesizing isobutyl- β -C-galactoside (IBCG) comprising: treating a halo-acetogalactose with an excess of an organomagnesium halide to provide IBCG.

Claim 37 (New): The method of claim 36 further including the step of deprotecting acetyl groups in C-linked glycoside with sodium methoxide.

Claim 38 (New): A method of inducing protein expression comprising adding isobutyl- β -C-galactoside (IBCG) to a plant cell.

Claim 39 (New): The method of claim 38 wherein the plant cell comprises an expression system having a *lac*-based promoter.

Claim 40 (New): The method of claim 38 wherein the *lac*-based promoter is a *lac* promoter.